

AD-A141 884

CONCOMITANTS OF SOCIAL SUPPORT: SOCIAL SKILLS PHYSICAL
ATTRACTIVENESS AND..(U) WASHINGTON UNIV SEATTLE DEPT OF
PSYCHOLOGY B R SARASON ET AL. 31 AUG 83 CO-ONR-007

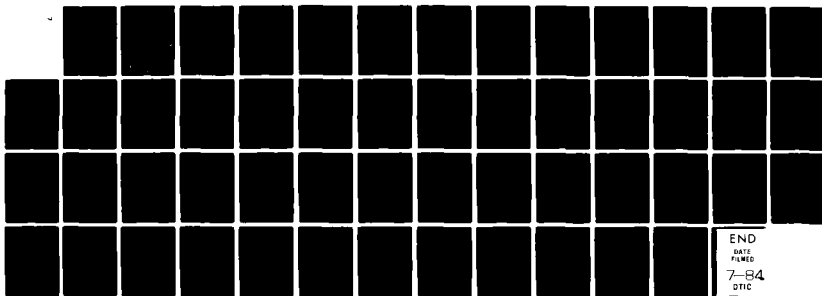
1/1

UNCLASSIFIED

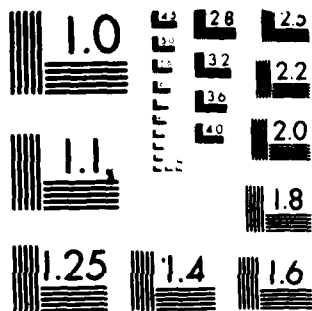
N00014-80-C-0522

F/G 5/11

NL



END
DATE
FILMED
7-84
DTIC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

Report CO-ONR-007

Concomitants of Social Support:
Social Skills, Physical Attractiveness and Gender

Barbara R. Sarason
Irwin G. Sarason
T. Anthony Hacker
Robert B. Basham

The University of ~~Washington~~

AD-A141 884

DTIC
ELECTE
JUN 7 1984
S A D

August 31, 1983

Technical Report

Approved for Public Release

Prepared for:

OFFICE OF NAVAL RESEARCH
800 North Quincy Street
Arlington, Virginia 22217

This program was sponsored by the Organizational Effectiveness Research
Program, Office of Naval Research (Code 442).
Under Contract Number N00014-80-C-0522, NR 170-908.

Reproduction whole or in part is permitted for any purpose of the
United States Government.

DTIC FILE COPY

The Ruth H. Harker Technical

DTIC 81000

Naval Research Laboratory

84 05 31 116

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER CO-ONR-007	2. GOVT ACCESSION NO. ADA141884	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Social Support and Its Relation to Social Skills		5. TYPE OF REPORT & PERIOD COVERED Technical Report
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Barbara R. Sarason, Irwin G. Sarason, T. Anthony Hacker and Robert B. Basham		8. CONTRACT OR GRANT NUMBER(s) N00014-80-C-0522
9. PERFORMING ORGANIZATION NAME AND ADDRESS Department of Psychology, NI-25 University of Washington Seattle, WA 98195		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS NR 170-908
11. CONTROLLING OFFICE NAME AND ADDRESS Organizational Effectiveness Research Programs Office of Naval Research (Code 442) Arlington, VA 22217		12. REPORT DATE August 31, 1983
		13. NUMBER OF PAGES 95
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited. Reproduction in whole or in part is permitted for any purpose of the United States Government.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Social Support Social Skills Social Interaction Social Problem Solving		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This study investigated the naturally occurring relationship between social support, as measured by self-report and social skills as measured by self-report, a variety of behavioral measures, and rated physical attractiveness. Subjects were 84 male and 84 female introductory psychology students selected on the basis of high and low number scores on the Social Support Questionnaire. The subjects were videotaped in two dyadic situations with a same sex partner. Subjects also completed the Loneliness Questionnaire, a special social competence questionnaire, a story completion task and self and		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE
S/N 0102 LF 014 6601

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

20. partner evaluations. The videotaped behavior was rated qualitatively and quantitatively. Significant differences were found in the social skills of subjects high and low in social support. Women also were found to be significantly more socially skilled and were rated as being more physically attractive than men. The various self-report and behavioral measures of social skills were significantly inter-related. The results help to delineate more clearly the dimensions of social support by demonstrating the relationship between social support and social skill.

Accession For

NY 3 3841

TIR

1944

1945

1946

1947

1948

1949

1950

1951

1952

1953

1954

1955

1956

1957

1958

1959

1960

1961

1962

1963

1964

1965

1966

1967

1968

1969

1970

1971

1972

1973

1974

1975

1976

1977

1978

1979

1980

1981

1982

1983

1984

1985

1986

1987

1988

1989

1990

1991

1992

1993

1994

1995

1996

1997

1998

1999

2000

2001

2002

2003

2004

2005

2006

2007

2008

2009

2010

2011

2012

2013

2014

2015

2016

2017

2018

2019

2020

2021

2022

2023

2024

2025

2026

2027

2028

2029

2030

2031

2032

2033

2034

2035

2036

2037

2038

2039

2040

2041

2042

2043

2044

2045

2046

2047

2048

2049

2050

2051

2052

2053

2054

2055

2056

2057

2058

2059

2060

2061

2062

2063

2064

2065

2066

2067

2068

2069

2070

2071

2072

2073

2074

2075

2076

2077

2078

2079

2080

2081

2082

2083

2084

2085

2086

2087

2088

2089

2090

2091

2092

2093

2094

2095

2096

2097

2098

2099

2100

2101

2102

2103

2104

2105

2106

2107

2108

2109

2110

2111

2112

2113

2114

2115

2116

2117

2118

2119

2120

2121

2122

2123

2124

2125

2126

2127

2128

2129

2130

2131

2132

2133

2134

2135

2136

2137

2138

2139

2140

2141

2142

2143

2144

2145

2146

2147

2148

2149

2150

2151

2152

2153

2154

2155

2156

2157

2158

2159

2160

2161

2162

2163

2164

2165

2166

2167

2168

2169

2170

2171

2172

2173

2174

2175

2176

2177

2178

2179

2180

2181

2182

2183

2184

2185

2186

2187

2188

2189

2190

2191

2192

2193

2194

2195

2196

2197

2198

2199

2200

2201

2202

2203

2204

2205

2206

2207

2208

2209

2210

2211

2212

2213

2214

2215

2216

2217

2218

2219

2220

2221

2222

2223

2224

2225

2226

2227

2228

2229

2230

2231

2232

2233

2234

2235

2236

2237

2238

2239

2240

2241

2242

2243

2244

2245

2246

2247

2248

2249

2250

2251

2252

2253

2254

2255

2256

2257

2258

2259

2260

2261

2262

2263

2264

2265

2266

2267

2268

2269

2270

2271

2272

2273

2274

2275

2276

2277

2278

2279

2280

2281

2282

2283

2284

2285

2286

2287

2288

2289

2290

2291

2292

2293

2294

2295

2296

2297

2298

2299

2300

2301

2302

2303

2304

2305

2306

2307

2308

2309

2310

2311

2312

2313

2314

2315

2316

2317

2318

2319

2320

2321

2322

2323

2324

2325

2326

2327

2328

2329

2330

2331

2332

2333

2334

2335

2336

2337

2338

2339

2340

2341

2342

2343

2344

2345

2346

2347

2348

2349

2350

2351

2352

2353

2354

2355

2356

2357

2358

2359

2360

2361

2362

2363

2364

2365

2366

2367

2368

2369

2370

2371

2372

2373

2374

2375

2376

2377

2378

2379

2380

2381

2382

2383

2384

2385

2386

2387

2388

2389

2390

2391

2392

2393

2394

2395

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

FOOTNOTES

1. This research was supported by a U. S. Office of Naval Research Contract (N00014-80-C-0522).

2. The authors wish to thank Rosalie Burnett who played the major role in constructing the rating systems and manuals used in this study and who trained many of the raters who participated.

Abstract

This study investigated the naturally occurring relationship between social support, as measured by self-report and social skills as measured by self-report, behavioral measures, and rated physical attractiveness. Subjects were 84 male and 84 female introductory psychology students selected on the basis of high and low number scores on the Social Support Questionnaire. The subjects were videotaped in two dyadic situations with a same sex partner. Subjects also completed the Loneliness Questionnaire, a special social competence questionnaire, a story completion task and self and partner evaluations. The videotaped behavior was rated qualitatively and quantitatively. Significant differences were found in the social skills of subjects high and low in social support. Women also were found to be significantly more socially skilled and were rated as being more physically attractive than men. The various self-report and behavioral measures of social skills were significantly inter-related. The results help to delineate more clearly the dimensions of social support by demonstrating the relationship between social support and social skill.

"The terms social support and social networks are currently in vogue.". This opinion voiced by Kenneth Heller (1979, p. 53) several years ago continues to hold true. Part of the original excitement in the idea of social support lay in its perceived usefulness as both a preventive and a rehabilitative tool (Iscoe, Bloom & Spielberger, 1977). The supportive relationships an individual perceives in his or her life have been related by researchers to a variety of clinical status indices both physical and psychological (see for example, Leavy, 1983). Up to the present time much of the burgeoning social support literature has been concerned with these health oriented studies and the development of measurement devices.

However helpful the provision of social support may be, making the social environment more supportive is not easily accomplished and may not be highly effective. An important factor is that the person to be helped must possess certain basic skills needed both to gain and to continue interpersonal relationships. As Heller has pointed out "if basic skills needed to access and maintain interpersonal relationships are absent, linking individuals to supportive environments is not likely to succeed without prior programs emphasizing social skills training" (1979, p. 376).

If we are talking about institutional or community supports this holds true, but it should be an even more critical factor in enabling individuals to gain support through individual efforts. For those able to function well enough, self-generated support is both more effective and efficient in the long term than organizationally provided support systems. As yet there is no clear picture,

particularly for those who are not institutionalized, of the particular characteristics necessary to gain and retain social support. While a variety of psychological data have given clues, for the most part empirical data are lacking. Self-perceived social support has been shown to be correlated with several personality characteristics, for example, anxiety, depression, hostility and locus of control, although there are sex differences in at least some of these relationships (Sarason, Levine, Basham & Sarason, 1983; Sarason & Sarason, 1982; Justice & Swenson, 1980).

While such relationships make intuitive sense, since all of them are based on self-report instruments, it is possible that variables such as basic response styles, concern or lack of concern over social desirability and other factors might play a role. A more basic question that must be addressed concerns the relationship of assessed social support not just to other self-report measures but also to behavioral observations made by participants in the situation and by outside observers. Only this type of data will allow conclusions that avoid the objection that the relationships obtained may be merely an artifact of an overriding response style (D'Zurilla & Nezu, 1982).

An important aspect of social support which has so far been barely addressed, except on a speculative basis, is its connection with social behavior. It makes intuitive sense that social support level and social skill level are positively related. However, as Nisbett and Wilson (1977) have pointed out, cultural beliefs or a priori theories applied to a situation because of salience and superficial applicability often turn out to be misleading and cannot

be considered data substitutes. In the case of social support and social skills, some related work suggests that the relationship between the two might be experimentally demonstrated. For example, Jones, Hobbs & Hockenbury (1982) have demonstrated several specific differences in the conversational behaviors of college students who are high and low in self-described loneliness. Another variable that might be related to social support is physical attractiveness. Although the relationship with social support has not been investigated per se, physical attractiveness has been demonstrated to be positively related to interpersonal attraction in heterosexual dyads (Kupke & Hobbs, 1979, Glasgow & Arkowitz, 1975).

The experiment on which we report was designed to yield data bearing on both the question of whether social skills level distinguishes between those high and low in social support and what relationship exists between self-evaluation of skills and the assessment of it by others. A number of researchers (Farrel, Mariotto, Conger, Curran, & Wallander., 1979; Curran, Monti, Corriveau, Hay, Hagerman, & Zwick, 1978) have found a lack of correspondence between self-reports and other ratings of social skills.

Investigations in the area of social skills have also encountered a variety of problems (Bellack, 1983). An important difficulty is encountered in attempting to move from a global or molar and relatively unspecified concept of social skills to a more molecular level of specific behaviors (Curran, 1979). Although a number of researchers, for example Argyle (1969, 1975, 1981) and Herten (1979),

have worked intensively with highly specific skills in the development of training programs, the use of such behaviors as indices to differentiate experimental groups has not yet borne fruit. Another question that has been raised is whether there is generalizability of social skills measured in role plays to skills as practiced in everyday life (Bellack, Hersen & Lamparski, 1979).

The study described here was conceived as a way of experimentally verifying whether individuals from a relatively homogeneous and well functioning population who had different perceptions of the amount of social support available to them also could be differentiated in social skill level and in physical appearance and if such differences existed whether they would apply equally to both males and females. In addition, the study was designed to determine the relationship of self-report measures, measures of the individual's knowledge of social skills and ratings of skilled behavior based on both global and specific criteria and on either personal contact or viewing of videotapes. The role plays used in the study represent two different kinds of behavior. One is a traditional role play with a script stem already provided. The other is as close to a real-life interaction as could be achieved in the laboratory, simply asking strangers to sit down and get acquainted.

METHOD

Subjects

The subjects were 168 students in an Introductory Psychology

course who received course credit for their participation. Prior to the experimental session, 1200 students had completed the Social Support Questionnaire (SSQ) (Sarason, Levine, Basham and Sarason, 1983) during a class session. The SSQ has been found to have a number of desirable psychometric properties, including stability over time and high internal consistency among items. SSQ items ask for example, "Whom can you really count on to listen to you when you need to talk?" and "Whom can you really count on to be dependable when you need help?" For each item the subject is asked to list, by initials or relationship, all those people who might be available to fill that particular function. The subjects are also asked to rate on a 6 point Likert scale how satisfied they are with the help that might be available. The SSQ yields two scores: perceived availability, the number of supportive persons listed (SSQN), and satisfaction with available support (SSQS). The individuals who scored in the highest and lowest quintiles of the group in number of social supports listed (SSQN) constituted the two pools from which subjects were drawn. The range of scores was 6 to 243 for the entire group. The cutoff points for the high and low groups were 70 for the low group and 140 for the high group.

Experimental Design

A 2x2x2 factorial design was employed. The three factors were: Social Support Questionnaire Number score (SSQN) of the subject (high or low), the SSQN of the partner (high or low), and the sex of the subject pair. A list of subject pairs needed to complete the design was prepared and the order of pairs was randomized. Subjects from

each pool (high and low SSQN subjects) were randomly assigned to an appropriate pair until all cells were complete.

Experimental Procedure

Subjects were contacted by phone by someone other than the experimenter and asked to participate in a communication experiment. When the subjects arrived for the experiment they were met by the experimenter who was not aware of their SSQN score and who led them into the experimental room. The room, a video studio, contained two arm chairs 3 feet apart and slightly turned toward each other with a small table holding a plant between them, and a videocamera on a tripod set about 15 feet away from the subject. The experimenter gave the subject pair the following instructions.

"What I'd like to have you do is come in and sit in one of the two green chairs. There's a form there that'll explain about the experiment—it's also a consent form. Go ahead and read that and if you decide that you want to be in the experiment, you'll need to sign at the bottom. After you sign I'll tell you about the rest of what we're going to do today.

As you just read on that form we're interested in looking at communication between people, and one of the things that we're interested in is how people get acquainted when they meet for the first time. What I'd like to do is to videotape two five minute conversations between the two of you. In the first conversation I'd like you to act as you normally would when you meet someone for the first time (and I assume that the two of you don't already know each other?) and then I'll come back in and give you

the second situation to talk about for another five minutes. After that I'll come in and turn off the video tape for good and have you fill out the rest of the questionnaires, after which I'll answer any questions you have about the experiment or problems you felt you had with it. Again, in the first conversation I'd like you to spend five minutes talking as you would when you meet someone for the first time and get acquainted, and then I'll come back in and give you the second situation to talk about. Ok?"

The experimenter then left the room and entered a viewing booth from which he monitored the subjects. He videotaped the interaction for 5 minutes. Then he reentered the room and gave these additional instructions.

"Ok. What I'd like to have you do in the second situation is to imagine that the two of you are room-mates, and that you have a third roommate named (Sally for a female pair or John for male pair). John/Sally has been a real pain to live with. He/she doesn't do any of the chores around the apartment; plays the stereo very loud late at night and early in the morning, and he's/she's just generally obnoxious to be rooming with. What I'd like to have you do is to imagine that John/Sally has gone out of town for the weekend skiing, and that the two of you are sitting around and talking about how you could improve the living situation in the apartment with regard to John/Sally. The only other thing you need to know is that the three of you knew each other about equally well when you first moved in together; none

of you were very close friends, but you'd gotten together a few times beforehand and decided it would be ok if you moved in together, and now it turns out that things really aren't working out very well with regard to John/Sally. So, again, I'd like you to spend five minutes talking about how you could improve the living situation in the apartment. I'll come back in five minutes and turn off the videotape, and then have you fill out the rest of the questionnaires after which I'll answer any questions you had about the experiment. OK?"

The experimenter again left the room and taped the second role-play. He then returned and asked the subjects to complete self-report forms. For this task they were seated in opposite corners of the room so that confidentiality could be maintained. After the questionnaires were filled out, the experimenter returned and took a Polaroid color photo of each subject.

Dependent Measures

Experimenter ratings. The experimenter, who was blind to the subject's social support group, made an intuitive assignment of each subject to the high or low social support category and also rated each subject's social competence on a scale from 1-100 using only a common sense appraisal as a guide. Both these scores were recorded before the first role play.

Videotape ratings. A number of measures were obtained from ratings of the videotapes for each of the two situations in which each subject participated. These ratings, which included both qualitative and quantitative measures were scored according to a manual constructed

from pilot data.

The videotape measures were constructed using a multistep process. First, the social competence literature was searched to obtain a list of behaviors associated with social competence. These were then organized into a number of ad hoc categories for the use of raters. During pilot work an instruction manual was written which defined each characteristic and gave examples of high and low scores.

Two groups of raters (qualitative and quantitative raters) rated the videotapes. The qualitative raters made a series of judgements on 7 point rating scales. The items included a variety of judgmental items including such topics as submissive vs. assertive, makes irrelevant contributions vs. makes relevant contributions, nervous gestures vs. communicative gestures. All terms in the ratings were operationally defined in the rating manual. The qualitative raters were four individuals who were trained using the specially constructed manual until all possible pairs achieved a reliability of $r = .80$ or better. Each rater was assigned a random selection of the tapes. Once per week the raters met for a reliability check. At this time all raters independently rated the same tape and then discussed the discrepancies. The data from the reliability checks were used to determine inter-rater reliability. Only one randomly chosen set of data from the reliability check was used for the analysis of the subjects' performance.

Each rater viewed the tape 6 times, on each repetition rating a particular group of items for the two subjects in counterbalancing

subject order. The ratings included measures of 1) non-verbal behavior, 2) the quality of the interaction, 3) global effectiveness, 4) vocal quality and 5) the quality of the problem solving roleplay. Examples of the measures, all rated on 7 point Likert Scales, were facial expression (from unfriendly, unsociable to friendly, sociable) scored on the non-verbal behavior scale and degree of reinforcement of partner (from fails to encourage and reinforce to encourages and reinforces) on the quality of interaction scale. Since a factor analysis indicated the measures loaded on one principal factor they were combined into a single qualitative score.

The quantitative raters measured the total time of occurrence of a variety of specific behaviors over each entire roleplay. These were four individuals who each viewed a random selection of the tapes and coded the duration of various behaviors defined in their instruction manual with a digital timing apparatus. The behaviors coded included the number of seconds of speech duration, eye contact while speaking and similar measures. The raters in this group were trained to an $r = .90$ or better reliability level and inter-rater reliability was assessed in the same manner described for the qualitative tapes.

Self-Report Measures and Story Completion

Several types of measures were obtained from the questionnaire packet filled out by each subject. These included ratings of both self and partner, three story completion tasks based on the means-ends problem solving format developed by Platt and Spivack (1975) which were scored by raters according to a specially constructed rating manual and two questionnaires, the UCLA Loneliness Questionnaire

(Russell, Peplau & Cutrona, 1980) and a specially constructed Social Competence Questionnaire (Com Q) designed to tap responses reflecting the degree of comfort in various social situations. The Com Q consists of ten items each of which was rated by the subject on a four point rating scale from "not at all like me" to "a great deal like me." For example, two items were

Have trouble keeping a conversation going when I'm just getting to know someone.

Feel confident of my social behavior.

The last page of the packet was a debriefing sheet that explained the purpose of the experiment.

Photos

The photos of the students were rated on a seven point scale for physical attractiveness. Eight raters, 5 females and 3 males rated the color photos of the subjects for attractiveness. They also used a rating manual prepared for this experiment. The inter-rater reliability was $r=.87$.

Results

The variables used in the statistical analyses were derived from a logical-empirical approach using a combination of variables rationally assigned to groups (i.e., self-report, scene completions, stopwatch, observer ratings and photo ratings) and then utilizing a multi-step factor analytic procedure. Thirteen final variables were derived from the original 246.

Differences in groups of subjects on all the dependent measures

were assessed using ANOVAs. Each analysis was three dimensional. The dimensions were high or low SSQN level of subject, sex of subject and high or low SSQN level of partner. A separate ANOVA using these dimensions was performed for each variable. The partner's SSQN level was significantly related to the subject's rating of the partner [$F(1,164)=7.66, p<.006$]. With this exception, the partner's SSQN level was not significant in any of the analyses. Table 1 summarizes these analyses for the other two dimensions and the results are elaborated below.

Experimenter Ratings

The ANOVA main effect for the experimenter's intuitive assignment of subjects to correct social support categories was significant [$F(1,160)=4.45, p<.04$]. The experimenter also rated those with high SSQN scores as significantly more socially competent than those with low SSQN scores [$F(1,160)=8.16, p<.005$]. There was also a significant sex difference in the experimenter's ratings of social competence [$F(1,160)=7.05, p<.009$]. Males were rated as less socially competent than females.

Qualitative Videotape Ratings

The most outstanding finding from the qualitative ratings of the videotapes was the rated sex difference in social competence. Females were consistently rated more socially competent than males. This was true for each of the five variables that made up the roleplay measure (p values ranged from .001 to .039). The overall score which summarized the qualitative ratings also showed a significant sex difference [$F(1,140)=9.97, p<.002$] with females rated as more

competent than males.

There was a trend [$F(1,140)=2.96$, $p<.09$] for those who were lower in the combined qualitative variable score also to be lower in assessed social support. This same trend was found for two of the variables that made up the combined score, the quality of the interactions and the global effectiveness in the role play task, [$F(1,140)=2.96$, $p<.09$) and $F(1,140)=3.10$, $p<.09$) respectively].

Quantitative Ratings

Two of the three quantitative measures made by the videotape raters showed significant sex differences. Females spent more time looking at their partners, both while they were speaking to the partner and while they were listening to the partner than did males [$F(1,162)=14.50$, and $F(1,162)=11.14$, in both cases $p <.001$].

Subject's Ratings of Self and Partner

Subjects in high SSQN and low SSQN groups differed significantly in their evaluation of their own role play performance based on a measure in which they rated tension, enjoyment and feeling liked by their partner [$F(1,164)=5.54$, $p<.020$]. There was also a sex difference on this self-report measure. Males rated themselves significantly higher than females [$F(1,164)=5.00$, $p<.03$]. There was a tendency for the social support level of the partner to affect the subject's self rating. However, this trend did not reach significance [$F(1,164)=3.02$, $p<.08$]. Those subjects whose partners were high in social support had a lower self rating than subjects whose partners were low on social support.

Subjects who had partners low in SSQN score tended to rate their partner lower on the combined rating of enjoyment, tension and likeability than did subjects who had high SSQN score partners [$F(1,164)=7.66, p<.06$].

The combined rating for self and the combined rating for partner were each broken down into three parts: separate ratings of attractiveness, effectiveness and enjoyment. For the effectiveness ratings, men's self-ratings tended to be higher than women's [$F(1,164)=3.74, p<.06$] with means of 8.54 and 8.07 respectively. When the subjects rated their partner's effectiveness, women rated their partners as more effective than men rated their partners [$F(1,164)=4.35, p<.04$] with means of 8.64 and 9.15 respectively. Subjects who had high social support partners rated them as more effective than those who had low social support partners [$F(1,164)=14.316, p<.001$] with means of 9.36 and 8.42 respectively. Men rated themselves as enjoying the role plays more than women, [$F(1,164)=4.204, p<.04$] with means of 11.06 and 10.45. For the subject's self-rating of attractiveness there was an interaction between sex of subject and the support level of the partner [$F(1,164)=11.22, p<.001$] with the means for males of 2.51 and 2.17 for high and low partners respectively. The corresponding means for females were 2.14 and 2.37. In other words, men rated themselves as being more attractive when their partner was high in social support while women rated themselves more attractive when their partner was low in social support. Attractiveness ratings of the partners also showed both a sex difference and a sex by partner's social support

level interaction. Women rated their partners as more attractive than men rated their partners [$F(1,164)=9.593$, $p<.002$] with means of 2.48 for men and 2.79 for women. Men whose partners were low in social support rated them as less attractive than did any of the other three groups [$F(1,164)=5.65$, $p<.02$] with means for low SSQN partners 2.31 for males and 2.86 for females and for high SSQN partners 2.65 for males and 2.73 for females.

Story Completion Ratings

Subjects high and low in SSQN score differed significantly in the ratings they received on the story completion task [$(F(1,160)=15.86$, $p<.001$]. Subjects low in social support had lower ratings of effectiveness as measured by the number of positive behaviors mentioned. In addition, the raters noted how many behaviors judged as inappropriate were described by the subjects. There were no significant effects for this variable. Subjects were also asked to rate their own comfort level on the story task and the perceived effectiveness of their story completions. Subjects in the high social support group rated themselves as significantly more comfortable and effective than the low social support group [$F(1,161)=7.24$, $p<.008$].

Questionnaire Scores

Subjects in the high and low social support groups differed significantly in their scores on the UCLA Loneliness Questionnaire [$F(1,161)=46.00$, $p<.001$]. Those low in social support reported much higher levels of loneliness than the high social support subjects. A

significant difference was also found between the two groups on the social competence questionnaire (Com Q). The subjects in the high SSQN group reported higher levels of self perceived social competence than the low SSQN students [$F(1,161)=25.58, p < .001$].

Photo Ratings

Males were also rated as less attractive than females based on color still photographs [$F(1,171)=30.15, p < .001$]. Subjects in the two SSQN groups did not differ significantly in rated attractiveness based on the photographs.

Social Support Satisfaction Scores

The Social Support Questionnaire yields a second score in addition to SSQN, the Satisfaction score (SSQS), by which the subject rates his or her satisfaction with the number of supports available. For each test item the range of satisfaction score possible is 1 to 6. Satisfaction and number scores are correlated in the range of $r=.3$ but seem to measure different aspects of social support (Sarason et al, 1983). To determine the relationship of SSQS to the dependent measures, the data was divided in terms of the subject's SSQS scores and an additional set of ANOVAs was carried out. Because the SSQS scores cover the full distribution whereas SSQN scores are only at the extremes of the distribution, there is a tendency in these analyses for the tests of SSQ-S effects to be less powerful than tests of SSQ-N effects. The results shown in Table 2 are reasonably similar to the SSQN analyses. The main difference is the lack of a significant

relationship of the SSQS to both the experimenter's ratings and of the corresponding non-significant trend found between SSQN and the overall role play ratings. Also when subjects were divided by SSQS scores, those low in SSQS score were rated as significantly less attractive than those with high SSQS scores [$F(1,160)=7.90, p<.006$].

Intercorrelations of Dependent Measures

An intercorrelation matrix of dependent measures for the combined variables is shown in Table 3. Similar matrices were constructed for male and female subjects separately. In general these were similar to Table 3. The males had more significant correlations than the females, 30 of the 78 were significant at $p<.05$ or better for men vs. 24 of 78 for women. A few particularly discrepant correlations for males and females are noted here. The Loneliness Questionnaire-COM Q correlation was $-.73$ for males and $-.50$ for females (both $p<.001$). Self-ratings for comfort and effectiveness were correlated with loneliness (and with COM Q) scores for males only ($r = -.33$ and $r = .53$ respectively, in both cases $p<.001$). The composite video rating score was related to the COM Q score only for males ($r = .38, p<.001$).

Discussion

The results of this experiment suggest that individuals who differ in social support are reacted to differently by others. People who describe themselves as low in number of social supports are less favorably evaluated by the subjects with whom they interact than are those high in social support. Their partners describe them as less

likeable and effective than high SSQN subjects. The experimenter also was able to discriminate between those who reported themselves high and low in social support at a level significantly better than chance. Social competence, measured in any of several ways, was associated with a higher level of social support. This is consistent with previous evidence that perceived social support from friends is related to self-rated assertiveness and dating skills (Procidano & Heller, 1983).

In this study, subjects high and low in social support were significantly different not only in self-described but in experimenter-rated social skills as well. This difference in social skills was also perceived by their partners in the dyadic interaction. Low social support subjects were rated by their partners as less effective in two different role plays than high social support subjects. The videotape raters who focused on specific skill components also tended to rate those high in social support as more skilled. In addition a test designed to measure awareness of appropriate social behavior showed that individuals high in social support were able to mention a greater number of specific skilled behaviors to be used in several clearly delineated situations than could those low in social support. The high SSQN subjects also expressed more comfort with their solutions and greater confidence that they would use such behaviors in an actual situation. Of special interest was the high level of agreement in social competence ratings from several sources. In this study, the subject's appraisal of his or her own social competence by means of a rating scale was in

agreement not only with a test designed to measure knowledge of socially skilled behavior but also with several kinds of appraisal by others.

The subjects' self-ratings score on an informational test, global ratings by the experimenter and by the partners, and quantitative and qualitative ratings of specific behaviors as seen on videotape all produced highly consistent appraisals of the social skill level of the subjects. This suggests that social skill differences based on self-report data that past experimenters have reported, can be taken as a reasonably valid measure of social skill as perceived by others not merely as a function of self-perception or response set. Wessberg, Curran, Monti, Corriveau, Coyne & Dziadosz (in press) have also shown with quite different populations that ratings of social skills from a variety of sources including self-ratings can show a high level of agreement.

In our previous laboratory research with the Social Support Questionnaire, females consistently report greater perceived social support and greater satisfaction with the support available than males. The results of this study indicate what is perhaps a complementary finding. The data show that the male subjects were rated lower in social support than the females in the experimenter's subjective evaluation. They were also rated lower in social skills by the experimenter and by trained raters of both qualitative and quantitative social skills whose rating criteria were based on formal rating systems. The subjects' partners also rated women as "more effective" than men but this finding is complicated by the fact that

all partners were of the same sex as the subjects.

When self-ratings are considered, men rated themselves as more skilled than women although this was in disagreement with all other measures of their performance. This finding is in contrast to Glass, Merluzzi, Biever and Larsen's (1982) finding that women rate themselves as more socially skilled. On a more generalized self-report measure of social competence, the Com Q questionnaire, males and females did not differ in their self-assessment. It may be that women's evaluations of their own performance are more stringent than are men's when a specific situation is involved but not when the topic is dealt with in the abstract. Responses on the Loneliness Questionnaire also did not show sex differences, a replication of earlier findings by Jones et al., 1983, and Russell et al, 1980. However, there was a stronger relationship between loneliness and self-perceived lack of social competence for men than for women.

A number of possibilities concerning these sex differences suggest themselves. However, none can be preferred on the basis of the available data. There does seem to be a consistent pattern in which women describe themselves as having quantitatively more, and more satisfying, social supports than men (Sarason et al., 1983). This may or may not be a consequence of a higher level of female social skills. The reason might be a developmental one. Males may mature socially at a later age than females so that male and female subjects may be at different stages of maturity. It may simply also be a product of the difference in emphasis in the socialization patterns of men and women. Men and women have different ways of

expressing socially skilled behavior. Both cultural stereotypes as expressed by the experimenter's overall appraisal and the items contained in the rating scales may be simply more in agreement with female than male style of social interaction.

Females' knowledge of socially skilled responses was greater than males as measured by their MEPS-like tests. Although this may again indicate that the rating scales based on past research data reflect a feminine bias in addition to a performance difference, a sex difference in knowledge of socially skilled behavior as it is presently defined in the psychological literature, still exists. Another possibility, perhaps remote is that the difference in skills might be an actual one and that male and female psychology students might be drawn from two different populations. Testing students in another discipline might show different results.

Males and females differ not only in overall rated skills but on some very specific behaviors. For example, both the time that females spent looking at their partners when the partner was speaking and the time the female spent both speaking and simultaneously looking at their partners were substantially greater than the looking and looking-listening and looking-speaking time of males. Vocal quality and the quality of the interaction of both subjects were also more highly rated for females than males. Again these may represent culturally conditioned differences rather than skill differences.

Raters also scored the females as significantly more attractive than the males. This too could relate to sampling from two different populations. Since physical attractiveness has been shown to be

correlated with social skills, it may be that this difference is a major contributing factor to the perceived social skill difference between sexes (Goldman & Lewis, 1977; Gross & Crofton, 1977).

However, if this is true the same kinds of speculations apply to the sex difference in rated attractiveness as have been listed for sex differences in social skill.

Another measure of attractiveness, the rating of how "good looking" the subject was by his or her partner showed the same direction of sex difference as the photo ratings, females were rated as more attractive by their female partners than males by their male partners. The question of attractiveness is a complex one.

This study has demonstrated that individuals high and low in social support differ in their knowledge of socially skilled behavior and in the degree to which their behavior in two types of situations is perceived as socially skilled by themselves and others. The study further shows that self-ratings of social skill; ratings by others, either participants or observers of the live situation; and ratings by those who view a videotape of the situation are in general agreement in describing the social skill rating of the individual. This finding may help answer many past disputes about the meaning of a variety of research findings.

Although some researchers (e.g. Conger & Farrell, 1981) have found as did this study, significant correlations between certain specific behaviors and social skills, the results of the study indicate that the state-of-the-art measures of social skill components are not as accurate predictors of skill status as are global

estimates. This finding, consonant with other researchers' work (e.g., Glasgow and Arkowitz, 1975; Curran, 1979), indicates that the ability to describe the specific characteristics of socially skilled behavior has not yet been achieved, at least for predictive utility. This study did show a trend toward significance, in itself a more hopeful finding than the results of most past work. It is clear from the data, however, that social skills and/or available social support are not merely a function of physical attractiveness but contain behavioral components as well. Also these results clearly indicate sex differences in social behavior and in self-appraisal of social skills.

Most important, this study has demonstrated that social support and social skills are indeed related. Further work in clearly establishing causal relationships lies ahead but like the chicken and the egg dispute, the issue may never be resolved. However, perhaps even more important from a practical viewpoint is the impetus that these findings should give to those interested in understanding the components of social support and those who focus on ways to help individuals who wish to increase their supportive relationships.

References

- Argyle, M. Social interaction. London: Methuen, 1969.
- Argyle, M. Bodily communication. London: Methuen, 1975.
- Argyle, M. The contribution of social interaction research to social skills training. In J.D. Wine & M.D. Smye Social Competence New York: The Guilford Press, 1981, 261-286.
- Bellack, A.S. Recurrent problems in the behavioral assessment of social skill. Behavior Research and Therapy, 1983, 21, 29-42.
- Bellack, A.S., Hersen, M. & Lamparski, D. Role-play tests for assessing social skills: Are they valid? Are they useful? Journal of Consulting and Clinical Psychology, 1979, 47, 335-342.
- Conger, A.J., Wallender, J., Ward, D., & Mariotto, M.J. Peer judgements of heterosexual social anxiety and skill. Paper at AABT 1978.
- Conger, A.J. & Farrell, A.D. Behavioral components of heterosocial skills. Behavior Therapy, 1981, 12, 41-55.
- Curran, J.P. Pandora's box reopened? The assessment of social skills. Journal of Behavioral Assessment, 1979, 1, 55-71.
- Curran, J.P., Monti, P.M., Corriveau, D.F., Hay, L.R., Hagerman, S., & Zwick, W.R. The generalizability of procedures for assessing social skills and social anxiety in a psychiatric population. Unpublished manuscript.
- D'Zurilla, T.J. & Nezu, A. Social problem solving in adults. In P.C. Kendall, (Ed.) Advances in Cognitive-behavioral Research and Therapy, Vol. 1, New York: Academic Press, 1982, pp. 201-274.
- Farrell, A.D., Mariotto, M.J., Conger, A.J., Curran, J.P. & Wallander, J.L. Self- and judges ratings of heterosexual-social anxiety and skill: A generalizability study. Journal of Consulting and Clinical Psychology, 1979, 47, 164-175.
- Glasgow, R.E. & Arkowitz, H. The behavioral assessment of male and female social competence in dyadic heterosexual interactions. Behavior Therapy, 1975, 6, 488-498.
- Glass, C.R., Merluzzi, T.V., Biever, J.L., & Larsen, K.H. Cognitive assessment of social anxiety: Development and validation of a self-statement questionnaire. Cognitive Therapy and Research, 1982, 6, 37-55.
- Goldman, W. & Lewis, P. Beautiful is good: evidence that the physically attractive are more socially skillful. Journal of Experimental Social Psychology, 1977, 13, 125-130.
- Gross, A.E. & Crofton, C. What is good is beautiful. Sociometry, 1977, 40.

85-90.

- Heller, K. The effects of social support: Prevention and treatment implications. In A.P. Goldstein and F.H. Kanfer (Eds.) Maximizing Enhancement in Psychotherapy. New York: Academic Press, 1979.
- Hersen, M. Modification of skill deficit in psychiatric patients. In A.S. Bellack and M. Hersen (Eds.) Research and Practice in Social Skills Training. New York: Plenum, 1979.
- Iscoe, I., Bloom, B.L., & Spielberger, C.D. Community psychology in transition: Proceedings of the National Conference on Community Psychology. Washington, D.C.: Hemisphere, 1977.
- Jones, W.H., Hobbs, S.A., & Hockenbury, D. Loneliness and social skill deficits. Journal of Personality and Social Psychology. 1982, 42, 682-689.
- Justice, B. & Swenson, K. Social assets and personal and social functioning. The Journal of Psychology. 1980, 106, 277-286.
- Kupke, T.E., Hobbs, S.A., & Cheney, T.H. Selection of heterosexual skills: Criterion related validity. Behavior Therapy. 1979, 10, 327-335.
- Leavy, R.L. Social support and psychological disorder: a review. Journal of Community Psychology. 1983, 11, 3-21.
- Nisbett, R.E. & Wilson, T.D. Telling more than we can know: Verbal reports on mental processes. Psychological Review. 1977, 84, 231-259.
- Procidano, M.E. & Heller, K. Measures of perceived social support from friends and family: Three validation studies. American Journal of Community Psychiatry. 1983, 11, 1-24.
- Reis, H.T., Wheeler, L., Spiegel, N., Kernis, M.H., Nezler, J. & Perri, M. Physical attractiveness and social interaction: II. Why does appearance effect social experience. Journal of Personality and Social Psychology. 1982, 43, 979-996.
- Russell, D.W., Peplau, L.A., & Cutrona, C.E. The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. Journal of Personality and Social Psychology. 1980, 39, 472-480.
- Sarason, I.G., Levin, H.M., Basham, R.B., & Sarason, B.R.. Assessing social support: The Social Support Questionnaire. Journal of Personality and Social Psychology. 1983, 44, 127-139.
- Sarason, I.G. & Sarason, B.R. Concomitants of social support: Attitudes, personality characteristics, and life experiences. Journal of Personality. 1982, 50, 331-344.
- Trower, P. Situational analyses of the components and processes of behavior of socially skilled and unskilled patients. Journal of Consulting and

Clinical Psychology, 1980, 48, 327-338.

Wessberg, H.W., Curran, J.P., Monti, P.M., Corriveau, D.P., Coyne, N.A. & Dziadosz, T.H. Evidence for the external validity of a social simulation measure of social skills. Journal of Behavioral Assessment, (in press, 1982).

TABLE 1
ANOVAS for SSQH, Sex of Subject, and Partner SSQH for
Each Dependent Variable

	Subject's SSQH				Sex of Subject		
	F	\bar{X} II	\bar{X} L	F	\bar{X} II	\bar{X} F	
<u>Self Report Measures</u>							
Loneliness	46.00***	32.38	42.05	1.30	37.96	36.39	
Conf. Q ^a	25.58**	29.85	25.94	<1	27.76	28.05	
Role Play Self Eval. ^b	5.54*	.13	-.13	5.00*	.13	-.12	
Role Play Partner Eval. ^c	1.53	.08	-.07	.14	-.01	.03	
<u>Scene Completion Meas.</u>							
Socially Appropriate ^c	15.86***	.87	-.99	2.18	-.41	.31	
Socially Inappropriate ^a	<1	.75	.69	<1	.78	.66	
Comfort/Effectiveness	7.24**	19.28	18.14	<1	18.76	18.67	
<u>Role Play Measures</u>							
Listening & Looking ^d	<1	35.99	36.47	11.12***	32.16	40.10	
Speaking	2.05	43.11	40.21	<1	41.73	41.66	
Speaking & Looking ^d	1.1	24.61	22.82	14.50***	20.30	27.02	
Sum Qualitative Ratings ^e	2.95	.07	-.14	9.97**	-.23	.15	
<u>Global Ratings</u>							
Exper. Rating-Soc. Comp. ^c	8.16**	74.22	69.32	7.05**	69.42	79.00	
Exper. Rating-Soc. Sup. ^c	4.45*	.67	.52	<1	.58	.61	
Attractiveness	2.52	26.09	24.40	30.15***	22.29	28.15	

Note The data from partners SSQH variable are omitted from this table because only one result was significant, the role-play partner evaluation. These figures are included in the text.

a. df 1,161
b. df 1,164
* p<.05

c. df 1,160
d. df 1,162
** p<.01

e. df 1,140
f. df 1,171
*** p<.001

TABLE 2
ANOVA's for SSQS, Sex of Subject and Partner SSQS for
Each Dependent Variable

	Subjects SSQS				Sex of Subject			
	F	Sig	\bar{X} I	\bar{X} L	F	\bar{X} I	\bar{X} F	
Self Report Measures								
Loneliness Q. ^a	36.05***	.001	32.53	41.78	3.58	38.49	35.82	
Conf. Q. ^a	21.55***	.001	29.76	26.00	<1	27.57	28.18	
Role Play Self Eval. ^b	6.78**	.01	.17	-.14	4.35*	.14	-.11	
Role Play Partner Eval. ^c	1.24	NS	.08	-.07	<1	-.02	.03	
Scene Completion Measure								
Socially Appropriate ^c	10.24**	.002	.59	-.93	2.54	-.56	.23	
Socially Inappropriate ^c	<1	NS	.73	.77	<1	.81	.69	
Comfort/Effectiveness ^a	9.68**	.002	19.37	18.01	<1	18.64	18.74	
Role Play Measures								
Listening & Looking ^d	2.20	NS	33.68	37.71	10.25**	31.55	39.68	
Speaking ^d	5.53*	.02	43.99	38.91	<1	41.16	41.31	
Speaking & Looking ^d	<1	NS	24.54	22.96	14.19***	20.17	27.25	
Sum Qualitative Ratings ^e	1.22	NS	.01	-.12	8.83**	-.24	.14	
Global Ratings								
Hyper. Ratings-- Soc. Comp. ^c	3.59	NS	73.00	69.47	5.77*	68.96	73.42	
Hyper. Ratings-- Soc. Sup. ^c	1.77	NS	.64	.53	<1	.56	.60	
Attractiveness ^f	4.02*	.05	26.17	24.06	27.98***	22.14	28.06	

Note: The data from partners SSQN variable are omitted from this table because only one result was significant, the role-play partner evaluation. These figures are included in the text.

a. df 1,161 c. df 1,160 e. df 1,140
b. df 1,164 d. df 1,162 f. df 1,171
* p<.05 ** p<.01 *** p<.001

TABLE 3
Intercorrelations of Dependent Measures

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Loneliness	---												
2. COLQ	.62 ***												
3. Role Play self/part.	-.12 ---	.30 **											
4. Soc. Appropriate	-.10 ---	.17 *	.16 *										
5. Soc. Inappropriate	-.09 ---	-.09 ---	.05 ---	.04 ---	-.20 **								
6. Comfort/Effect	-.35 ***	.51 ***	.24 ***	.19 **	.01 ---								
7. List. & Looking	.13 *	-.02 ---	-.02 ---	.01 ---	-.18 ---	.03 ---							
8. Speaking	-.11 ---	.12 ---	.11 ---	.13 *	.14 *	.03 ---	-.52 ***						
9. Speaking & Looking	-.04 ---	-.12 ---	.15 ---	.10 ---	.03 ---	.04 ---	-.01 ---	.43 ***					
10. Sum (qual Ratings)	-.15 *	.23 **	.21 **	.29 ***	.17 *	.01 ---	.05 ---	.38 ***	.43 ***				
11. Exper. Ratings-- Soc. Comp.	-.11 ---	.28 ***	.33 ***	.35 ***	.02 ---	.14 *	.06 ---	.36 ***	.31 ***	.57 ***			
12. Exper. Ratings-- Soc. Sup.	-.08 ---	.16 **	.14 *	.17 *	.06 ---	.16 *	-.18 **	.32 ***	.21 ***	.27 ***	.60 ***		
13. Attractiveness	-.31 ***	.26 ***	-.02 ---	-.09 ---	.01 ---	.16 *	-.02 ---	.09 ---	.11 ---	.21 **	.06 ---	.10 ---	

* $p < .05$ ** $p < .01$ *** $p < .001$

P4-5/A1
Sequencial by Agency

452:KD:716:tan
78u452-883
6 November 1979

LIST 1
MANDATORY

Defense Documentation Center (12 copies)
ATTN: DDC-TC
Accessions Division
Cameron Station
Alexandria, VA 22314

Library of Congress
Science and Technology Division
Washington, DC 20540

Chief of Naval Research (3 copies)
Office of Naval Research
Code 452
800 N. Quincy Street
Arlington, VA 22217

Commanding Officer (6 copies)
Naval Research Laboratory
Code 2627
Washington, DC 20375

Addition to Tech Report mailing list (Complex):

Dr. Al Lau
Navy Personnel Research &
Development Center
San Diego, CA 92152 (4/82)

P4-5/A3
Sequential by State/City

452:KD:716:ram
78u452-883
6 November 1979

LIST 2
ONR FIELD

Commanding Officer
ONR Branch Office
1030 E. Green Street
Pasadena, CA 91106

Psychologist
ONR Branch Office
1030 E. Green Street
Pasadena, CA 91106

Commanding Officer
ONR Branch Office
536 S. Clark Street
Chicago, IL 60605

Psychologist
ONR Branch Office
536 S. Clark Street
Chicago, IL 60605

Commanding Officer
ONR Branch Office
Bldg. 114, Section D
666 Summer Street
Boston, MA 02210

Psychologist
ONR Branch Office
Bldg. 114, Section D
666 Summer Street
~~Boston, MA~~ 02210

Office of Naval Research
Director, Technology Programs
Code 200
800 N. Quincy Street
Arlington, VA 22217

P4-5/A5
Sequential by OPNAV Code

452:KD:716:can
78u452-883
6 November 1979

LIST 3
OPNAV

Deputy Chief of Naval Operations
(Manpower, Personnel, and Training)
Scientific Advisor to DCNO (Op-01T)
2705 Arlington Annex
Washington, DC 20350

Deputy Chief of Naval Operations
(Manpower, Personnel, and Training)
Director, Human Resource Management
Division (Op-15)
Department of the Navy
Washington, DC 20350

Deputy Chief of Naval Operations
(Manpower, Personnel, and Training)
Head, Research, Development, and
Studies Branch (Op-102)
1812 Arlington Annex
Washington, DC 20350

Deputy Chief of Naval Operations
(Manpower, Personnel, and Training)
Director, Human Resource Management
Plans and Policy Branch (Op-150)
Department of the Navy
Washington, DC 20350

Chief of Naval Operations
Head, Manpower, Personnel, Training—
and Reserves Team (Op-964D)
The Pentagon, 4A578
~~Washington, DC 20350~~

Chief of Naval Operations
Assistant, Personnel Logistics
Planning (Op-987P10)
The Pentagon, 5D772
Washington, DC 20350

P4-5/A7

452:KD:716:ddc
78u452-883
4 April 1980

LIST 4
NAVMAT & NPRDC

NAVMAT

Program Administrator for Manpower,
Personnel, and Training
HQ Naval Material Command (Code 08D22)
678 Crystal Plaza #5
Washington, DC 20370

Naval Material Command
Management Training Center
NMAT 09M32
Jefferson Plaza, Bldg #2, Rm 150
1421 Jefferson Davis Highway
Arlington, VA 20360

NPRDC

Commanding Officer
Naval Personnel R&D Center
San Diego, CA 92152

(5 Copies)

Navy Personnel R&D Center
Washington Liaison Office
Building 200, 2N
Washington Navy Yard
Washington, DC 20374

P4-5/A9
Sequential by State/City

452:KD:716:tan
78u452-883
6 November 1979

LIST 5
BUMED

Commanding Officer
Naval Health Research Center
San Diego, CA

Commanding Officer
Naval Submarine Medical
Research Laboratory
Naval Submarine Base
New London, Box 900
Groton, CT 06340

Director, Medical Service Corps
Bureau of Medicine and Surgery
Code 23
Department of the Navy
Washington, DC 20372

Naval Aerospace Medical
Research Lab
Naval Air Station
Pensacola, FL 32508

CDR Robert Kennedy
Officer in Charge
Naval Aerospace Medical
Research Laboratory Detachment
Box 2940, Michoud Station
New Orleans, LA 70129

National Naval Medical Center
Psychology Department
Bethesda, MD 20014

Commanding Officer
Navy Medical R&D Command
Bethesda, MD 20014

P4-5/A11

452:KD:716:tan
78u452-883
6 November 1979

LIST 6
NAVAL POSTGRADUATE SCHOOL

Naval Postgraduate School
ATTN: Dr. Richard S. Elster
Department of Administrative Sciences
Monterey, CA 93940

Naval Postgraduate School
ATTN: Professor John Senger
Operations Research and
Administrative Science
Monterey, CA 93940

Superintendent
Naval Postgraduate School
Code 1424
Monterey, CA 93940

P4-5/A13
Sequencial by State/City/FPO

452:KD:716:tan
78u452-883
6 November 1979

LIST 7
HRM

Officer in Charge
Human Resource Management Detachment
Naval Air Station
Alameda, CA 94591

Officer in Charge
Human Resource Management Detachment
Naval Submarine Base New London
P.O. Box 81
Groton, CT 06340

Officer in Charge
Human Resource Management Division
Naval Air Station
Mayport, FL 32228

Commanding Officer
Human Resource Management Center
Pearl Harbor, HI 96860

Commander in Chief
Human Resource Management Division
U.S. Pacific Fleet
Pearl Harbor, HI 96860

Officer in Charge
Human Resource Management Detachment
Naval Base
Charleston, SC 29408

Commanding Officer
~~Human Resource Management School~~
Naval Air Station Memphis
Millington, TN 38054

Human Resource Management School
Naval Air Station Memphis (96)
Millington, TN 38054

P4-5/A14

List 7 (Continued)

452:KD:716:tan

78u452-883

6 November 1979

Commanding Officer
Human Resource Management Center
1300 Wilson Boulevard
Arlington, VA 22209

Commanding Officer
Human Resource Management Center
5621-23 Tidewater Drive
Norfolk, VA 23511

Commander in Chief
Human Resource Management Division
U.S. Atlantic Fleet
Norfolk, VA 23511

Officer in Charge
Human Resource Management Detachment
Naval Air Station Ehdbey Island
Oak Harbor, WA 98278

Commanding Officer
Human Resource Management Center
Box 23
FPO New York 09510

Commander in Chief
Human Resource Management Division
U.S. Naval Force Europe
FPO New York 09510

Officer in Charge
Human Resource Management Detachment
Box 60
FPO San Francisco 96651

Officer in Charge
Human Resource Management Detachment
COMNAVFORJAPAN
FPO Seattle 98762

P4-5/A16
Sequential by State/City

452:KD:716:ddc
78u452-883
4 April 1980

LIST 8
NAVY MISCELLANEOUS

Naval Military Personnel Command (2 copies)
HRM Department (NMPC-6)
Washington, DC 20350

Naval Training Analysis
and Evaluation Group
Orlando, FL 32813

Commanding Officer
Naval Training Equipment Center
Orlando, FL 32813

Chief of Naval Education
and Training (N-5)
ACOS Research and Program
Development
Naval Air Station
Pensacola, FL 32508

Naval War College
Management Department
Newport, RI 02940

LCDR Hardy L. Merritt
Naval Reserve Readiness Command
Region 7 Naval Base
Charleston, SC 29408

Chief of Naval Technical Training
ATTN: Dr. Norman Kerr, Code 0161
NAS Memphis (75)
Millington, TN 38054

Navy Recruiting Command
Head, Research and Analysis Branch
Code 434, Room 8001
801 North Randolph Street
Arlington, VA 22203

CAPT Richard L. Martin, U.S.N.
Prospective Commanding Officer
USS Carl Vinson (CVN-70)
Newsport News Shipbuilding &
Drydock Company
Newsport News, VA 23607

P4-5/A18

452:KD:716:tan
78u452-883
6 November 1979

LIST 9
USMC

Commandant of the Marine Corps
Headquarters, U.S. Marine Corps
Code MPI-20
Washington, DC 20380

Headquarters, U.S. Marine Corps
ATTN: Dr. A. L. Slafkosky,
Code RD-1
Washington, DC 20380

P4-5/A23
Sequential by Agency

452:KD:716:tan
78u452-883
6 November 1979

LIST 11
OTHER FEDERAL GOVERNMENT

National Institute of Education
Educational Equity Grants Program
1200 19th Street, N.W.
Washington, DC 20208

National Institute of Education
ATTN: Dr. Fritz Muhlhauser
EOLC/SMD
1200 19th Street, N.W.
Washington, DC 20208

National Institute of Mental Health
Minority Group Mental Health Programs
Room 7 - 102
5600 Fishers Lane
Rockville, MD 20852

Office of Personnel Management
Organizational Psychology Branch
1900 E Street, NW.
Washington, DC 20415

Chief, Psychological Research Branch
ATTN: Mr. Richard Lanterman
U.S. Coast Guard (G-P-1/2/62)
Washington, DC 20590

Social and Developmental Psychology
Program
National Science Foundation
Washington, DC 20550

P4-5/A25
Sequential by State/City

452:KD:716:abc
78u452-883
6 November 1979

LIST 12
ARMY

Army Research Institute
Field Unit - Monterey
P.O. Box 5787
Monterey, CA 93940

Deputy Chief of Staff for
Personnel, Research Office
ATTN: DAPE-PBR
Washington, DC 20310

Headquarters, FORSCOM
ATTN: AFPR-HR
Ft. McPherson, GA 30330

Army Research Institute
Field Unit - Leavenworth
P.O. Box 3122
Fort Leavenworth, KS 66027

Technical Director
Army Research Institute
5001 Eisenhower Avenue
Alexandria, VA 22333

(2 copies)

P4-5/A27
Sequential by State/City

452:KD:716:ddc
78u452-883
4 April 1980

LIST 13
AIR FORCE

Air University Library/LSE 76-443
Maxwell AFB, AL 36112

DEPARTMENT OF THE AIR FORCE
Air War College/EDRL
Attn: Lt Col James D. Young
Maxwell AFB, AL 36112

APOSR/NL (Dr. Fregly)
Building 410
Bolling AFB
Washington, DC 20332

Air Force Institute of Technology
AFIT/LSGR (Lt. Col. Umstot)
Wright-Patterson AFB
Dayton, OH 45433

Technical Director
AFHRL/ORS
Brooks AFB
San Antonio, TX 78235

AFMPC/DPMYP
(Research and Measurement Division)
Randolph AFB
Universal City, TX 78148

P4-5/A29
Sequential by State/City

452:KD:716:ddc
78u452-883
4 April 1980

**LIST 14
MISCELLANEOUS**

Dr. Edwin A. Fleishman
Advanced Research Resources
Organization
Suite 900
433 East West Highway
Washington, DC 20014

Australian Embassy
Office of the Air Attache (S3B)
1601 Massachusetts Avenue, N.W.
Washington, DC 20036

British Embassy
Scientific Information Officer
Room 509
3100 Massachusetts Avenue, N.W.
Washington, DC 20008

Canadian Defense Liaison Staff,
Washington
ATTN: CDRD
2450 Massachusetts Avenue, N.W.
Washington, DC 20008

Mr. Mark T. Munger
McBer and Company
137 Newbury Street
Boston, MA 02116

Mr. B. F. Clark
RR #2, Box 647-B
Graham, North Carolina 27253

HumRRO
ATTN: Library
300 North Washington Street
Alexandria, VA 22314

Commandant, Royal Military
College of Canada
ATTN: Department of Military
Leadership and Management
Kingston, Ontario K7L 2W3

National Defence Headquarters
ATTN: DPAR
Ottawa, Ontario K1A 0K2

Mr. Luigi Petrullo
2431 North Edgewood Street
Arlington, VA 22207

P4-5/B2
Sequential by Principal Investigator

452:KD:716:tan
78u452-883
6 November 1979

LIST 15
CURRENT CONTRACTORS

Dr. Clayton P. Alderfer
School of Organization
and Management
Yale University
New Haven, CT 06520

Dr. H. Russell Bernard
Department of Sociology
and Anthropology
West Virginia University
Morgantown, WV 26506

Dr. Arthur Blaiwes
Human Factors Laboratory, Code N-71
Naval Training Equipment Center
Orlando, FL 32813

Dr. Michael Borus
Ohio State University
Columbus, OH 43210

Dr. Joseph V. Brady
The Johns Hopkins University
School of Medicine
Division of Behavioral Biology
Baltimore, MD 21205

Mr. Frank Clark
ADTECH/Advanced Technology, Inc.
7923 Jones Branch Drive, Suite 500
McLean, VA 22102

Dr. Stuart W. Cook
University of Colorado
Institute of Behavioral Science
Boulder, CO 80309

Mr. Gerald M. Croan
Westinghouse National Issues
Center
Suite 1111
2341 Jefferson Davis Highway
Arlington, VA 22202

P4-5/B3

LIST 15 (Continued)

452:KD:716:ta

78u452-883

6 November 19

Dr. Larry Cummings
University of Wisconsin-Madison
Graduate School of Business
Center for the Study of
Organizational Performance
1155 Observatory Drive
Madison, WI 53706

Dr. John P. French, Jr.
University of Michigan
Institute for Social Research
P.O. Box 1248
Ann Arbor, MI 48106

Dr. Paul S. Goodman
Graduate School of Industrial
Administration
Carnegie-Mellon University
Pittsburgh, PA 15213

Dr. J. Richard Hackman
School of Organization
and Management
Yale University
56 Hillhouse Avenue
New Haven, CT 06520

Dr. Asa G. Hilliard, Jr.
The Urban Institute for
Human Services, Inc.
P.O. Box 15068
San Francisco, CA 94115

Dr. Charles L. Hulin
Department of Psychology
University of Illinois
Champaign, IL 61820

Dr. Edna J. Hunter
United States International
University
School of Human Behavior
P.O. Box 26110
San Diego, CA 92126

P4-5/B4

LIST 15 (Continued)

452:KD:716:cam

78u452-883

6 November 1979

Dr. Rudi Klaus
Syracuse University
Public Administration Department
Maxwell School
Syracuse, NY 13210

Dr. Judi Komaki
Georgia Institute of Technology
Engineering Experiment Station
Atlanta, GA 30332

Dr. Edward E. Lawler
Battelle Human Affairs
Research Centers
P.O. Box 5395
4000 N.E., 41st Street
Seattle, WA 98105

Dr. Edwin A. Locke
University of Maryland
College of Business and Management
and Department of Psychology
College Park, MD 20742

Dr. Ben Morgan
Performance Assessment
Laboratory
Old Dominion University
Norfolk, VA 23508

Dr. Richard L. Monday
Graduate School of Management
and Business
University of Oregon
Eugene, OR 97403

Dr. Joseph Olmstead
Human Resources Research
Organization
300 North Washington Street
Alexandria, VA 22314

LIST 15 (Continued)

Dr. Thomas M. Ostrom
The Ohio State University
Department of Psychology
116E Stadium
404C West 17th Avenue
Columbus, OH 43210

Dr. George E. Rowland
Temple University, The Merit Center
Ritter Annex, 9th Floor
College of Education
Philadelphia, PA 19122

Dr. Irwin G. Sarason
University of Washington
Department of Psychology
Seattle, WA 98195

Dr. Benjamin Schneider
Michigan State University
East Lansing, MI 48824

Dr. Saul B. Sells
Texas Christian University
Institute of Behavioral Research
Drawer C
Fort Worth, TX 76129

Dr. H. Wallace Sinaiko
Program Director, Manpower Research
and Advisory Services
Smithsonian Institution
801 N. Pitt Street, Suite 120
Alexandria, VA 22314

Dr. Richard Steers
Graduate School of Management
and Business
University of Oregon
Eugene, OR 97403

